

Chemistry 351

Quiz #11

December 5, 2018

Name: _____

Student Number: _____

Section Number: _____

TA: _____

INSTRUCTIONS:

This quiz consists of 6 questions on 3 pages. Please make certain that your quiz is complete.


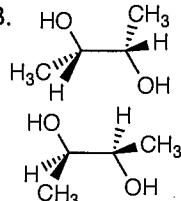
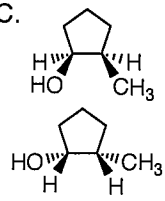
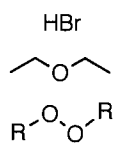

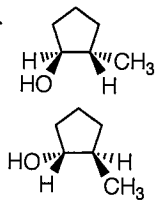
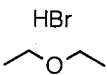

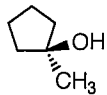
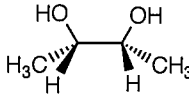
Write your name, student number, and section number **on both the quiz and answer sheet. Be certain to bubble in your PID digits on the answer sheet. The absence of any of these identification items will result in the deduction of 2 points from your score.**

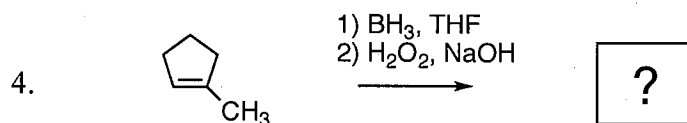
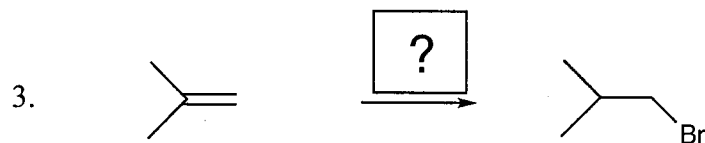
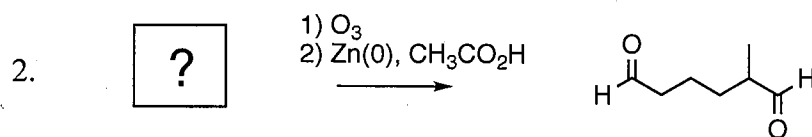
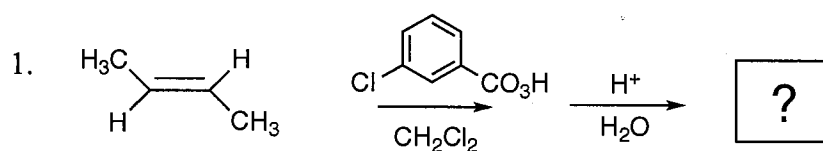
Questions 1-4 are each worth 1 point. Question 5 is worth 2 points. Question 6 is worth 4 points.

Write your answers to Questions 1-4 on the enclosed answer sheet. **Write your answer to Question 5 and Question 6 in the space provided on this quiz.**

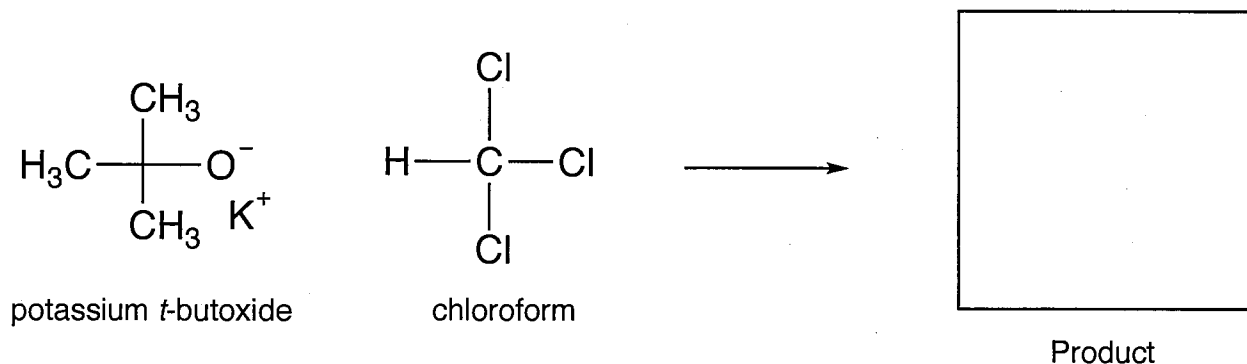
When you complete the quiz, insert your answer sheet into your quiz and then hand both in on the bench in front of the lecture hall in the spot indicated by your section number.

Questions 1-4 are to be answered from the following possibilities:

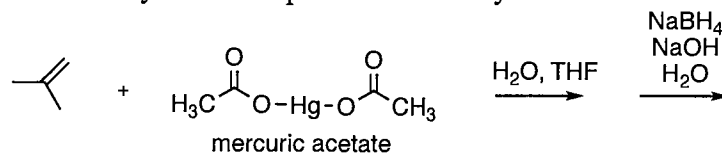
| | | | | |
|--|--|--|---|--|
| A.  | B.  | C.  | D.  | E.  |
| F.  | G.  | H.  | I.  | J.  |



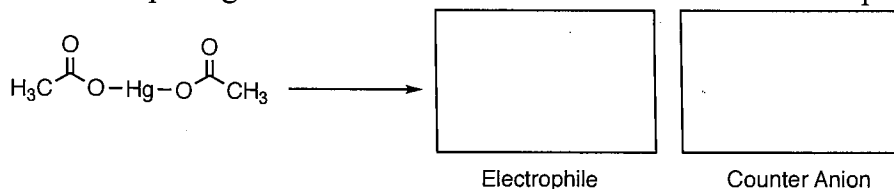
5. (2 pts) For the reaction of potassium *t*-butoxide with chloroform (HCCl_3):
- Provide the arrows that depict the flow of electrons during the reaction.
 - In the labeled box, provide the structure of the product of the reaction.



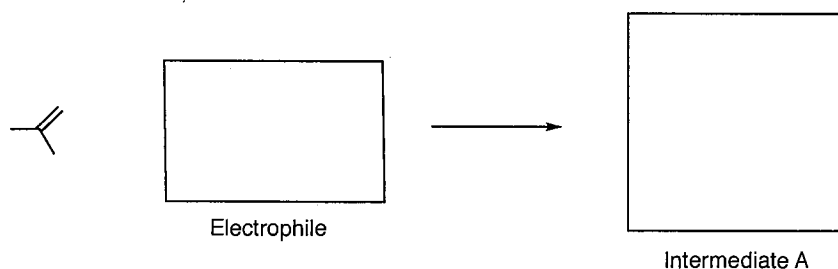
6. (4 pts) For the sequential reaction of mercuric acetate with isobutene in THF/H₂O followed by reaction with sodium borohydride in aqueous sodium hydroxide



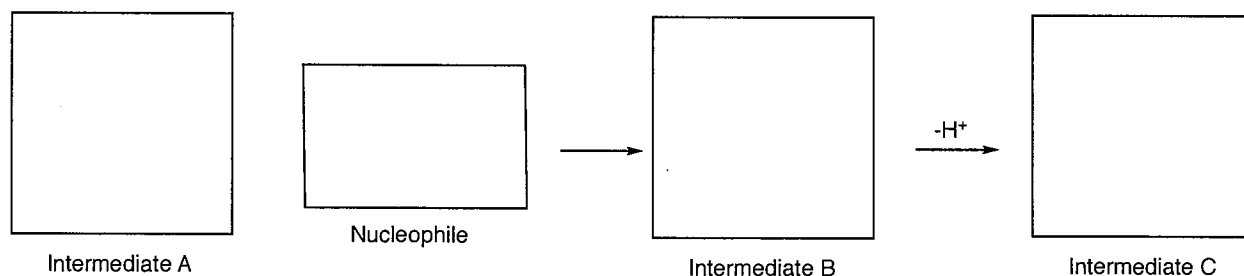
a. In the labeled box, **provide the structures** of the Electrophile, its Counter Anion and **provide the arrow or arrows** depicting the flow of electrons in formation of the Electrophile.



b. In the labeled box, **provide the structure** of Intermediate A formed from attack of the Electrophile on isobutene. Also **draw the arrows** that show the flow of electrons during attack of the Electrophile on isobutene.



c. In the labeled boxes, **provide the structures** of the Nucleophile, Intermediate B, and Intermediate C formed upon attack of the Nucleophile on Intermediate A. Also **draw the arrow or arrows** showing the flow of electrons during attack of the Nucleophile on Intermediate A.



d. In the labeled boxes, **provide the structures** of the Product and Byproduct of the overall reaction and the Reagent that is needed to convert Intermediate C into the Product and Byproduct. No arrows are required.

